GENERAL

1. This project is to be constructed in accordance with the Virginia Department of Transportation's Road and Bridge Specifications dated 2002, Road and Bridge Standards dated February 1, 2001, Work Area Protection Manual dated January 2003 and as amended by contract provisions and these plans.

2. Topographic mapping performed by Anderson and Associates, Inc. the mapping contour interval is two-foot. The vertical datum is based on NGVD 29. The horizontal datum is based on VA State Plane South coordinates.

UTILITY

3. Underground utilities shown per topographic mapping performed by Anderson and Associates, Inc.

4. The contractor shall contact "Miss Utility of Virginia" (1-800-552-7001) at least forty-eight (48) hours before beginning any construction activities to obtain field utility locations. Proposed construction activities will take place in the proximity of existing utilities.

MAINTENANCE OF TRAFFIC

1. One lane of traffic in each direction on Rte. 460 shall be maintained at all times. Maintenance of traffic shall be performed in accordance with the Manual of Uniform Traffic Control Devices and The Virginia Work Area Protection Manual, latest editions.

2. The contractor shall prepare and submit a Maintenance of Traffic (MOT) plan to VDOT. The MOT plan shall be approved by VDOT prior to commencement of construction.

SIGNAL

1. The signal material and installation shall be in accordance with Virginia Department of Transportation Road and Bridge Specifications dated 2002, and the 2001 Road and Bridge Standards, as amended by contract provisions and these plans.

2. The contractor shall contact "Miss Utility of Virginia" (1-800-552-7001) at least forty-eight (48) hours before beginning excavation or trenching to obtain field utility locations. Proposed construction activities will take place in the proximity of existing utilities.

3. The traffic signal system shall be measured and paid for as lump sum. This price shall include signal poles, pole foundations, signal heads, traffic signal controller, cabinet, cabinet foundation, junction boxes (signal), conduit, video detectors, wiring, emergency preemption, signal interconnect, and all other hardware, labor, and equipment necessary to complete the work in accordance with Section 703 and Section 238 of the 2001 VDOT Road and Bridge Specifications.

SIGNAL CON'T

4. This plan does not guarantee the location of existing utilities, utility poles, signs, pavement, guard rail, concrete items, pipes, etc. The contractor shall verify the location of all such features prior to construction. The actual location of these features may differ from what is shown in the plans. The contractor shall notify the Engineer and VDOT upon discovery of any conflicts that require field adjustment of plan items. The contractor shall also review the roadway improvement plans for this project to determine the placement of roadway features relative to signal components.

5. Electrical service shall be VDOT St'd SE-3 (or Type A for overhead service, Type B for underground) with 100 amp meter base and 70 amp qo 2-phase (square d or equivalent) circuit breaker box. Contractor will coordinate with the local power company to obtain electrical service.

6. Phasing should be fully-actuated with major phases receiving minimum green intervals and extending indefinitely until interrupted by minor phase actuation. Minor phases should receive green after actuation, provided the major phase has completed the minimum interval. Additional actuations will extend the minor phase green until the preset maximum is reached or a gap in actuations is greater than the passage time occurs.

7. The top of all signal pole foundations shall be 4" above road grade. Signal pole foundations shall be VDOT Std. PF-5. 8 bolt pattern is required for pole connection to the foundation. The cost of the foundation shall be included in the bid price for the traffic signal improvements.

8. Pole foundation shall be designed and sealed by an Engineer licensed in the Commonwealth of Virginia. It is the contractor's responsibility to obtain geotechnical information for pole foundation design.

9. The signal phasing included is preliminary and is for use until refinements are made by the Town. The final signal timing will be determined by the Town Traffic Engineer.

10. The contractor shall verify the elevation of all underground utilities to be crossed prior to jacking and boring conduits. The contractor shall hand dig when crossing water lines and sewer force mains.

11. All underground conduit shall be installed in accordance with Std. EC1-I.

12. Mast arm signal head mounting shall be in accordance with Std. SM-3.

13. Mast arm pole shall be in accordance with Std, MP-1. Traffic signal poles shall be VDOT Standard MP-1 (hardware shall be galvanized) and shall be in accordance with the signal pole/mast arm schedule on these plans and section 700 of the VDOT Road and Bridge Specifications.

14. Conduit locations shall be marked on all foundations for the conduit installed.

SIGNAL CON'T

15. Camera locations are tentative and final locations shall be determined by the video equipment supplier or the Town Traffic Engineer. Video equipment shall completely interface with the existing office computer system software.

16. All measurements for the placement of signal heads, signs, and cameras on mast arms shall be taken from the flange to the center of the signal head, signs, and cameras. Quantity summary shown on the plans is provided for information only. It is the contractor's responsibility to verify material quantities prior to bidding.

17. Traffic signal head sections shall be aluminum heads with polycarbonate lenses. Lamps shall be LED.

18. Video detectors shall be equivalent to equipment specified in the VDOT special provision for video detection equipment.

19. The 30-day testing period shall begin after completion of the substantial completion punch list.

20. Conduit locations shall be marked on all foundations for the conduit installed.

21. All u-bolts, nuts, and washers shall be stainless steel. All plate material shall be galvanized.

22. All conduit entering junction boxes shall not be extended into box over 2" +/- 1/2" and shall be fitted with appropriate bell ends or bushings.

23. Signal pole and controller cabinet locations shall be located within 24" of the point as shown on the plan. Exact signal pole and controller placement shall be verified by the Town Traffic Engineer prior to installation.

24. No work shall commence with the exception of the soil survey for the foundations until all submittals are received and approved by the Town Traffic Engineer.

25. Every signal pole shall be bonded back to the equipment ground bus bar in the traffic controller cabinet.

26. Emergency preemption equipment shall be equivalent to equipment specified in the VDOT Special Provisions for emergency preemption equipment.

27. All junction boxes shall be in accordance with VDOT standard JB-3C through JB-5C, sized per requirements of NFPA 70 and section 238 of the VDOT Road and Bridge Specifications. All junction boxes shall be grounded as per VDOT standards. Junction boxes subjected to traffic shall be VDOT standard JB-3C. Junction boxes shall be included in the bid price as noted in traffic signal note #3. Location of junction boxes are to be field located by the contractor and field reviewed by the Town Traffic Engineer Representative prior to installation.

SIGNAL QUANTITY SUMMARY **

INTERSECTION	ELECTRICAL SERVICE SE-3	TRAFFIC SIGNAL HEAD SECTION 12" STANDARD	CONC. FOUNDATION CF-1	CONC. FOUNDATION PF-5	SIGNAL POLE MP-1	MAST ARM 30'	MAST ARM 40'	MAST ARM 50'	14/4 CONDUCTOR CABLE	CONDUCTOR CABLE #8 BOND WIRE	14/12 CONDUCTOR CABLE	14/2 CONDUCTOR CABLE SHIELDED	HANGER ASSEMBLY SM-3 ONE WAY (IN-LINE)	HANGER ASSEMBLY SM-3 ONE WAY (CLUSTER)	HANDER ASSEMBLY SMB-3 (PED) TWO WAY	INSTALL SIGNS *	INSTALL VIDEO PROCESSOR	TRAFFIC SIGNALIZATION EMERGENCY PREEMPTION DETECTION CABLE	TRAFFIC SIGNALIZATION EMERGENCY PREEMPTION TYPE 1	TRAFFIC SIGNALIZATION CONTROLLER TYPE 1	TRAFFIC SIGNALIZATION VIDEO DETECTION TYPE II	TRAFFIC SIGNALIZATION FURNISH CONFLICT MONITOR	TRAFFIC SIGNALIZATION SIGNAL LOAD SWITCH	TRAFFIC SIGNALIZATION MODEM	TRAFFIC SIGNALIZATION 12" LED RED	TRAFFIC SIGNALIZATION 12" LED GREEN	TRAFFIC SIGNALIZATION 12" LED AMBER	TRAFFIC SIGNALIZATION 12" LED GREEN ARROW	TRAFFIC SIGNALIZATION 12" LED AMBER ARROW	TRAFFIC SIGNALIZATION ACCESSIBLE PEDESTRIAN SIGNAL	TRAFFIC SIGNALIZATION ACCESSIBLE PEDESTRIAN PUCH BUTTON	JUNCTION BOX JB-3A, 3B, OR 3C	JUNCTION BOX JB-5A, 5B, OR 5C	2" CONDUIT	3" CONDUIT	2" BORED CONDUIT	TRENCH EXCAVATION	TEST BORE
	EA	EA	EA	CY	EA	EA	EA	EA	LF	LF	LF	LF	EA	EA	EA	EA	EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	EA
S. Main Street / Ardmore Street	1	37	1	11	4	1	1	1	590	400	1290	610	9	2	4	10	1	610	4	1	4	1	1	1	11	9	9	4	4	8	8	4	1	200	12	450	111	3

* QUANTITY INCLUDES GROUND MOUNTED SIGNS.
** PROVIDED FOR INFORMATION ONLY.

SIGNAL QUANTITY SUMMARY **

INTERSECTION	ELECTRICAL SERVICE SE-3	TRAFFIC SIGNAL HEAD SECTION 12" STANDARD	CONC. FOUNDATION CF-1	CONC. FOUNDATION PF-5	CONC. FOUNDATION PF-3	PEDESTAL POLE PF-2	SIGNAL POLE MP-1	SIGNAL POLE MP-2	MAST ARM 30'	MAST ARM 40'	MAST ARM 50'	14/4 CONDUCTOR CABLE	CONDUCTOR CABLE #8 BOND WIRE	14/12 CONDUCTOR CABLE	14/7 CONDUCTOR CABLE	14/2 CONDUCTOR CABLE SHIELDED	HANGER ASSEMBLY SM-3 ONE WAY (IN-LINE)	HANGER ASSEMBLY SM-3 ONE WAY (CLUSTER)	HANDER ASSEMBLY SMB-3 (PED) TWO WAY	INSTALL SIGNS *	INSTALL VIDEO PROCESSOR	TRAFFIC SIGNALIZATION EMERGENCY PREEMPTION DETECTION CABLE	TRAFFIC SIGNALIZATION EMERGENCY PREEMPTION TYPE 1	TRAFFIC SIGNALIZATION CONTROLLER TYPE 1	TRAFFIC SIGNALIZATION VIDEO DETECTION TYPE II	TRAFFIC SIGNALIZATION FURNISH CONFLICT MONITOR	TRAFFIC SIGNALIZATION SIGNAL LOAD SWITCH	TRAFFIC SIGNALIZATION MODEM	TRAFFIC SIGNALIZATION 12" LED RED	TRAFFIC SIGNALIZATION 12" LED GREEN	TRAFFIC SIGNALIZATION 12" LED AMBER	TRAFFIC SIGNALIZATION 12" LED GREEN ARROW	TRAFFIC SIGNALIZATION 12" LED AMBER ARROW	TRAFFIC SIGNALIZATION ACCESSIBLE PEDESTRIAN SIGNAL	TRAFFIC SIGNALIZATION ACCESSIBLE PEDESTRIAN PUCH BUTTON	JUNCTION BOX JB-3A, 3B, OR 3C	JUNCTION BOX JB-5A, 5B, OR 5C	2" CONDUIT	3" CONDUIT	2" BORED CONDUIT	TRENCH EXCAVATION	TEST BORE
	EA	EA	EA	CY	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	EA
S. Main Street / Marlington Street	1	37	1	11	2	2	2	2	2	1	1	360	515	1355	250	610	9	2	4	10	1	592	4	1	4	1	1	1	11	9	9	4	4	8	8	4	1	280	20	375	134	3

* QUANTITY INCLUDES GROUND MOUNTED SIGNS.
** PROVIDED FOR INFORMATION ONLY.

TOWN ENGINEER DATE

TOWN PLANNER DATE

COMMONWEALTH OF VIRGINIA
4/27/07
TREVOR M. KIMZEY
No. 036354
PROFESSIONAL ENGINEER

ANDERSON & ASSOCIATES, INC.
Professional Design Services
www.andassoc.com
Virginia - North Carolina - Tennessee
100 Ardmore St.
Blacksburg, Va. 24060
540-552-5592

DATE : 27 APR 07
DESIGNED : DRB/CMW
DRAWN : DRB/CMW
CHECKED : TMK
QA / QC : ---

REV. #	COMMENTS	DATE
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FIRST & MAIN
SOUTH MAIN STREET IMPROVEMENTS
BLACKSBURG, VIRGINIA

SIGNAL NOTES & QUANTITIES

DOCUMENT NO. **22559 – 100**
SHEET **C3.03**